

## Webinar on «Design of Cold-Formed Steel Structures»

**January-February 2023**

8 sessions of 90min (1h30), 1 session/day, from 10:30 CET

Reference book: Design of Cold-Formed Steel Structures

Speakers:

Prof. Dan Dubina, Politehnica University of Timisoara, Romania  
 Prof. Raffaele Landolfo, University of Naples "Federico II", Italy  
 Prof. Viorel Ungureanu, Politehnica University of Timisoara, Romania

<u>PROGRAMME</u>			
<u>Date</u>	<u>Topic</u>	<u>Content</u>	<u>Speaker</u>
<b>Week 1</b>			
<b>Session 1</b> <b>24/01</b>	Welcome & Introduction	<ul style="list-style-type: none"> <li>- Content, objectives</li> <li>- Logic of the book and of the lectures</li> </ul>	Professor Dan DUBINA
	Specific features of cold-formed steel structures	<ul style="list-style-type: none"> <li>- Cold Formed Steel Construction: Past, Present and Future</li> <li>- Fabrication technology and properties</li> <li>- Peculiar problems in design of cold-formed steel structures</li> <li>- Examples of application</li> <li>- Q &amp; A</li> </ul>	Professor Dan DUBINA
<b>Session 2</b> <b>26/01</b>	Basic design rules and procedures according to EN 1993-1-3	<ul style="list-style-type: none"> <li>- Theory and worked examples</li> <li>- Design of sections</li> <li>- Design of members</li> <li>- Connection technology and design</li> <li>- Q &amp; A</li> </ul>	Professor Viorel UNGUREANU
<b>Week 2</b>			
<b>Session 3</b> <b>31/01</b>	Design assisted by testing	<ul style="list-style-type: none"> <li>- Why design assisted by testing?</li> <li>- Case studies</li> <li>- Design assisted by testing of Palled Racks</li> <li>- Q &amp; A</li> </ul>	Professor Dan DUBINA
<b>Session 4</b> <b>02/02</b>	Design assisted by numerical models	<ul style="list-style-type: none"> <li>- Principles</li> <li>- Finite Element Model analysis</li> <li>- The signature curve</li> <li>- The Direct Strength Method</li> <li>- Examples</li> <li>- Q &amp; A</li> </ul>	Professor Raffaele LANDOLFO

<u>Date</u>	<u>Topic</u>	<u>Content</u>	<u>Speaker</u>
<b>Week 3</b>			
<b>Session 5</b> <b>07/02</b>	Design of residential, social and industrial buildings	<ul style="list-style-type: none"> <li>- Conceptual design</li> <li>- Prescriptive methods</li> <li>- Case studies</li> <li>- Q &amp; A</li> </ul>	Professor Viorel UNGUREANU
<b>Session 6</b> <b>09/02</b>	Design of cold-formed steel buildings in seismic areas	<ul style="list-style-type: none"> <li>- Seismic design principles for lightweight construction</li> <li>- Strap-braced shear wall</li> <li>- Sheathing-braced shear wall</li> <li>- Research and codification</li> <li>- Case studies</li> <li>- Q &amp; A</li> </ul>	Professor Raffaele LANDOLFO
<b>Week 4</b>			
<b>Session 7</b> <b>14/02</b>	Conceptual design and technology aspects of modular multi-storey buildings	<ul style="list-style-type: none"> <li>- Modular Steel Construction</li> <li>- Structural systems and technologies</li> <li>- Examples</li> <li>- Hybrid solutions: principles and examples</li> <li>- Q &amp; A</li> </ul>	Professor Dan DUBINA
<b>Session 8</b> <b>16/02</b>	Sustainable benefits of cold-formed steel construction	<ul style="list-style-type: none"> <li>- Environmental impact and Life-cycle assessment</li> <li>- Durability</li> <li>- Embodied energy</li> <li>- Prefabrication</li> <li>- Reuse &amp; recycling, circular economy</li> <li>- Waste minimization</li> <li>- Adaptability &amp; flexibility</li> <li>- Integrated CAD-to-production</li> <li>- Features of an energy efficient building envelope</li> <li>- Q &amp; A</li> </ul>	Professor Viorel UNGUREANU
Closing of the course : short conclusions (all lecturers)			

This webinar is organized by the European Convention for Constructional Steelwork. As a not-for-profit association, the aim of ECCS is to promote the use of steelwork in the construction sector by the development of standards and promotional information. More information is available on <https://www.steelconstruct.com/>